What is claimed is:

1. An optical recording medium comprising:

a substrate;

a recording layer formed on the substrate;

a first protective layer formed on the recording layer; and

a transparent heat radiating layer formed on the first protective layer for promoting dispersion of heat from the recording layer;

light being exposed on the recording layer via a side at which the heat radiating layer is positioned to thereby perform recording and/or reproduction of information.

2. An optical recording medium as set forth in claim 1, wherein said optical recording medium is used in near field condition.

3. An optical recording medium as set forth in claim 2, wherein the near field condition comprises a space between the heat radiating layer and an optical system of about 200 nm or less.

4. An optical recording medium as set forth in claim 3, wherein the optical system comprises a solid immersion lens (SIL).

5. An optical recording medium as set forth in claim 1, wherein the heat radiating layer has a higher

heat conductivity than the first protective layer.

6. An optical recording medium as set forth in claim 5, wherein the heat radiating layer has a heat conductivity of about 0.1 (W/cm·K) or more.

7. An optical recording medium as set forth in claim 6, wherein the heat radiating layer has a quenching coefficient with respect to the light used for recording and reproducing of less than about 0.1.

8. An optical recording medium as set forth in claim 7, wherein the heat radiating layer comprises at least one of BN, AlN, SiN, SiC, Ta_2O_5, and diamond-state carbon.

9. An optical recording medium as set forth in claim 1, wherein the heat radiating layer is a multi-layer film comprising a plurality of layers having substantially same optical constants and having different heat constants stacked together.

10. An optical recording medium as set forth in claim 1, wherein a layer reflecting light and comprising metal or semimetal is formed between the substrate and the recording layer.

11. An optical recording medium as set forth in claim 1, further comprising an antireflection layer formed on the heat radiating layer.

12. An optical recording medium as set forth in

claim 1, further comprising an antireflection layer between the heat radiating layer and the recording layer.

13. An optical recording medium as set forth in claim 1, further comprising a second protective layer between the substrate and the recording layer.

14. An optical recording medium as set forth in claim 1, wherein the recording layer comprises a material undergoing a phase change and changing in a complex index of refraction by said light.

15. An optical recording medium as set forth in claim 1, wherein the recording layer comprises a material changing in a magnetization state by using said light and enabling detection of the change as a change of a polarization state.

16. An optical recording medium as set forth in claim 1, wherein the recording layer comprises an organic dye material changing in a complex index of refraction or shape by said light with respect to a wavelength of the reproducing light.

17. An optical recording and reproduction device comprising a light source, an optical recording medium, and an optical system focusing light from the light source to the optical recording medium, wherein

the optical recording medium comprises a substrate, a recording layer formed on the substrate, a

first protective layer formed on the recording layer, and a heat radiating layer formed on the first protective layer,

light from the optical system is exposed to the recording layer via a side with the heat radiating layer formed for recording and reproducing information, and

said heat radiating layer promotes dispersion of heat from the recording layer.

18. An optical recording and reproduction device as set forth in claim 17, wherein a space between the heat radiating layer and the optical system comprises a near field.

19. An optical recording and reproduction device as set forth in claim 18, wherein the space is about 200 nm or less.

20. An optical recording medium as set forth in claim 19, wherein the optical system comprises a solid immersion lens (SIL).

21. An optical recording and reproduction device as set forth in claim 17, wherein the heat radiating layer has a higher heat conductivity than the first protective layer.

22. An optical recording and reproduction device as set forth in claim 21, wherein the heat radiating

layer has a heat conductivity of about 0.1 (W/cm·K) or more.

23. An optical recording and reproduction device as set forth in claim 22, wherein the heat radiating layer has a quenching coefficient with respect to the light used for recording and reproducing of less than about 0.1.

24. An optical recording and reproduction device as set forth in claim 23, wherein the heat radiating layer comprises at least one of BN, AlN, SiN, SiC, Ta_2O_5, and diamond-state carbon.

25. An optical recording and reproduction device as set forth in claim 17, wherein the heat radiating layer is a multi-layer film comprising a plurality of layers having substantially same optical constants and having different heat constants stacked together.

26. An optical recording and reproduction device as set forth in claim 17, wherein a layer reflecting the light and comprising metal or semimetal is formed between the substrate and the recording layer.

27. An optical recording and reproduction device as set forth in claim 17, wherein said optical recording medium further comprises an antireflection layer on the heat radiating layer.

28. An optical recording and reproduction device

as set forth in claim 17, wherein said optical recording medium further comprises an antireflection layer between the heat radiating layer and the recording layer.

29. An optical recording and reproduction device as set forth in claim 17, wherein said optical recording medium further comprises a second protective layer between the substrate and the recording layer.

30. An optical recording and reproduction device as set forth in claim 17, wherein the recording layer comprises a material changing in a magnetization state by using said light and enabling detection of the change as a change of a polarization state.

31. An optical recording and reproduction device as set forth in claim 17, wherein the recording layer comprises an organic dye material changing in a complex index of refraction or shape by said light with respect to a wavelength of the reproducing light.

32. An optical recording and reproduction device comprising a light source, an optical recording medium, and an optical system focusing light from the light source to the optical recording medium, wherein

the optical recording medium comprises a substrate, a phase change recording layer formed on the substrate and comprised of a material undergoing a phase change and changing in a complex index of refraction by

said focusing of light, a first protective layer formed on the phase change recording layer, and a heat radiating layer formed on the first protective layer,

light from the optical system is exposed to the phase change recording layer via a side with the heat radiating layer formed for recording and reproducing information, and

said heat radiating layer promotes dispersion of heat from the phase change recording layer.

33. An optical recording and reproduction device as set forth in claim 32, wherein a space between the heat radiating layer and the optical system comprises a near field.

34. An optical recording and reproduction device as set forth in claim 33, wherein the space is about 200 nm or less.

35. An optical recording medium as set forth in claim 34, wherein the optical system comprises a solid immersion lens (SIL).

36. An optical recording and reproduction device as set forth in claim 32, wherein the heat radiating layer has a higher heat conductivity than the first protective layer.

37. An optical recording and reproduction device as set forth in claim 36, wherein the heat radiating

layer has a heat conductivity of about 0.1 (W/cm·K) or more.

38. An optical recording and reproduction device as set forth in claim 37, wherein the heat radiating layer has a quenching coefficient with respect to the light used for recording and reproducing of less than about 0.1.

39. An optical recording and reproduction device as set forth in claim 38, wherein the heat radiating layer comprises at least one of BN, AlN, SiN, SiC, Ta_2O_5, and diamond-state carbon.

40. An optical recording and reproduction device as set forth in claim 32, wherein the heat radiating layer is a multi-layer film comprising a plurality of layers having substantially same optical constants and having different heat constants stacked together.

41. An optical recording and reproduction device as set forth in claim 32, wherein a light reflecting layer comprising metal or semimetal is formed between the substrate and the recording layer.

42. An optical recording and reproduction device as set forth in claim 32, wherein said optical recording medium further comprises an antireflection layer on the heat radiating layer.

43. An optical recording and reproduction device

as set forth in claim 32, wherein said optical recording medium further comprises an antireflection layer between the heat radiating layer and the recording layer.

44. An optical recording and reproduction device as set forth in claim 32, wherein said optical recording medium further comprises a second protective layer between the substrate and the recording layer.

45. An optical recording and reproduction device comprising a light source, an optical recording medium, and an optical system focusing light from the light source to the optical recording medium, wherein

the optical recording medium comprises a substrate, a recording layer formed on the substrate, a first protective layer formed on the recording layer, and a heat radiating layer formed on the first protective layer,

light is focused from the optical system comprising a near field with the numerical aperture (NA) more than 1 to the recording layer via a side with the heat radiating layer formed for recording and reproducing information, and

said heat radiating layer promotes dispersion of heat from the recording layer.

46. An optical recording medium as set forth in claim 45, wherein the optical system comprises a solid

immersion lens (SIL).

47. An optical recording and reproduction device as set forth in claim 45, wherein the heat radiating layer has a higher heat conductivity than the first protective layer.

48. An optical recording and reproduction device as set forth in claim 47, wherein the heat radiating layer has a heat conductivity of about 0.1 (W/cm·K) or more.

49. An optical recording and reproduction device as set forth in claim 48, wherein the heat radiating layer has a quenching coefficient with respect to the light used for recording and reproducing of less than about 0.1.

50. An optical recording and reproduction device as set forth in claim 49, wherein the heat radiating layer comprises at least one of BN, AlN, SiN, SiC, Ta_2O_5, and diamond-state carbon.

51. An optical recording and reproduction device as set forth in claim 45, wherein the heat radiating layer is a multi-layer film comprising a plurality of layers having substantially same optical constants and having different heat constants stacked together.

52. An optical recording and reproduction device as set forth in claim 45, wherein a layer reflecting the

light and comprising metal or semimetal is formed between the substrate and the recording layer.

53. An optical recording and reproduction device as set forth in claim 45, wherein said optical recording medium further comprises an antireflection layer on the heat radiating layer.

54. An optical recording and reproduction device as set forth in claim 45, wherein said optical recording medium further comprises an antireflection layer between the heat radiating layer and the recording layer.

55. An optical recording and reproduction device as set forth in claim 45, wherein said optical recording medium further comprises a second protective layer between the substrate and the recording layer.

56. An optical recording and reproduction device as set forth in claim 45, wherein the recording layer comprises a material undergoing a phase change and changing in a complex index of refraction by said light.

57. An optical recording and reproduction device as set forth in claim 45, wherein the recording layer comprises a material changing in a magnetization state by using said light and enabling detection of the change as a change of a polarization state.

58. An optical recording and reproduction device as set forth in claim 45, wherein the recording layer

comprises an organic dye material changing in a complex index of refraction or shape by said light with respect to a wavelength of the reproducing light.